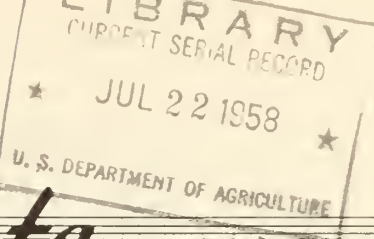


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Research Note

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LOG PRODUCTION IN IDAHO AND MONTANA, 1956

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While this is essentially a report of sawlog volumes cut from Idaho and Montana timber lands in 1956 for lumber, the volumes of logs destined for plywood-veneer manufacture are included. In these two States all plywood-veneer plants are operated in conjunction with sawmills. Accordingly, all logs are received as sawlogs; those suitable for veneer slicing are selected from these, and the remainder are sawed for lumber. Cants remaining from the veneer slicing operation are also sawed into lumber. Idaho and Montana lumber production for 1956 has been reported in separate publications and cannot be related directly to the log production data of this report because of interstate movement of logs, overrun, and log inventory carryovers.

HIGHLIGHTS

The total volume of logs cut in Idaho and Montana and delivered to sawmills and plywood or veneer plants passed the 3 billion board foot^{1/} mark in 1956. More than 51 percent of the two-state total was cut in northern Idaho (all of Idaho north of the Salmon River) and more than 35 percent was produced from the forests of western Montana (all of Montana west of the Continental Divide). Southern Idaho contributed 11 percent and eastern Montana more than 2 percent.

Douglas-fir led all species in the two-state area by contributing more than 23 percent of the total log volume. Engelmann spruce was second with 21 percent and was followed by ponderosa pine with more than 17 percent. The remainder was distributed in order among the true firs, western larch, white pine, and other species.

Clearwater County, Idaho, was the top log-producing county of both States, while Lincoln County, Montana, took second place (tables 1 and 2).

^{1/} All volume data are in International $\frac{1}{4}$ -inch log rule units. Relatively close approximations of Scribner board-foot volumes can be obtained by multiplying by 0.89.

Table 1.--Sawmill and veneer plant log receipts from Idaho timberlands by species and county of origin, 1956

Subunit and county	Log receipts by species							All species	
	Ponderosa pine	White pines ^{1/}	Lodgepole pine	Douglas-True fir ^{2/}	Engelmann spruce	Western larch	Other species ^{3/}	Volume	Percent
- - - - - Thousands of board feet, International $\frac{1}{4}$ -inch Rule - - - - -									
NORTHERN									
Benewah	10,419	6,515	1,435	17,994	15,851	557	14,548	1,295	68,614 3.6
Bonner	13,861	36,488	280	39,995	22,638	28,571	34,992	21,124	197,949 10.6
Boundary	3,122	10,991	10	8,220	7,777	63,655	12,416	5,562	111,753 6.0
Clearwater	37,169	135,246	0	87,963	122,913	12,252	36,505	45,916	477,964 25.5
Idaho ^{4/}	62,506	921	1,034	47,486	32,266	37,935	4,107	330	186,585 9.9
Kootenai	11,955	14,155	521	26,767	25,045	2,270	7,108	1,803	89,624 4.8
Latah	18,407	9,261	26	26,285	18,120	546	9,128	3,565	85,338 4.5
Lewis	3,222	0	0	11,636	20,686	0	5,150	0	40,694 2.2
Nez Perce	28,766	0	0	13,005	6,634	1,655	2,116	1	52,177 2.8
Shoshone	4,575	53,866	648	41,249	42,044	59,323	22,577	7,916	232,198 12.4
TOTAL NORTHERN	194,002	267,443	3,954	320,600	313,974	206,764	148,647	87,512	1,542,896 82.3
Percent of total	12.6	17.3	.3	20.8	20.3	13.4	9.6	5.7	100.0
SOUTHERN									
Boise	32,175	0	76	13,567	11,217	852	0	0	57,887 3.1
Caribou	0	0	99	3,643	49	0	0	0	3,791 .2
Custer	0	0	124	3,423	0	342	0	0	3,889 .2
Clark	0	0	1,456	3,792	0	0	0	0	5,248 .3
Elmore	26,258	0	0	11,536	0	0	0	0	39,794 2.1
Fremont	0	0	7,177	3,517	0	0	0	0	10,694 .6
Lemhi	7,105	0	0	8,491	0	84	0	0	15,680 .8
Adams, Gem, Washington ^{5/}	29,570	0	1,783	27,719	8,281	5,371	2,379	0	75,103 4.0
Bannock, Bear Lake, Franklin, Power	0	0	924	2,569	347	1,493	0	0	5,333 .3
Blaine, Camas, Jerome	0	0	757	3,378	11	147	0	138	4,431 .2
Bonneville, Teton	0	0	225	654	67	269	0	33	1,248 .1
Idaho ^{4/} , Valley	39,296	0	6,608	43,906	7,367	10,370	159	0	107,706 5.8
TOTAL SOUTHERN	136,404	0	19,229	126,195	27,339	18,928	2,538	171	330,804 17.7
Percent of total	41.2		5.8	38.1	8.3	5.7	.8	.1	100.0
TOTAL IDAHO	330,406	267,443	23,183	446,795	341,313	225,692	151,185	87,683	1,873,700 100.0
Percent of total	17.6	14.3	1.2	23.9	18.2	12.0	8.1	4.7	100.0

^{1/} Practically all western white pine, but includes very small amounts of whitebark or limber pine.^{2/} Includes grand, white, and alpine firs.^{3/} Includes western redcedar (73,475 M b.f.), western hemlock (13,981 M b.f.), aspen, and cottonwood.^{4/} Idaho County is divided by the Salmon River and lies partly in each subunit.^{5/} Counties combined to avoid disclosing individual operations.

Table 2.--Sawmill and veneer plant log receipts from Montana timberlands by species and county of origin, 1956

Subunit and county	Log receipts by species							All species		
	Ponderosa pine	White pines ^{1/}	Lodgepole pine	Douglas-fir	True firs ^{2/}	Engelmann spruce	Western larch	Other species ^{3/}	Volume	Percent
- - - - -Thousands of board feet, International 1/4-inch Rule- - - - -										
WESTERN										
Flathead	14,787	5,173	5,722	37,483	3,739	83,000	40,289	1,871	192,064	17.0
Granite	5,642	0	87	17,992	1	267	548	3	24,540	2.2
Lake	5,260	247	197	8,782	973	17,755	19,186	2,022	54,422	4.8
Lewis and Clark ^{4/}	4,362	0	191	4,528	0	504	0	0	9,585	.8
Lincoln	51,549	11,651	3,841	48,107	2,224	211,854	64,510	63	393,799	34.9
Mineral	8,476	981	11	5,747	1,984	29,842	4,275	65	51,381	4.6
Missoula	35,020	7	1,431	50,588	400	38,388	38,026	121	163,981	14.5
Ravalli	16,775	0	35	9,852	0	69	225	17	26,973	2.4
Sanders	26,330	6,606	0	13,200	791	17,919	19,963	12	84,821	7.5
Deerlodge ^{4/} , Powell	12,061	0	1,334	40,119	6	158	2,685	1	56,364	5.0
TOTAL WESTERN	180,262	24,665	12,849	236,398	10,118	399,756	189,707	4,175	1,057,930	93.7
Percent of total	17.0	2.3	1.2	22.4	1.0	37.8	17.9	.4	100.0	
EASTERN										
Broadwater	15	0	436	1,833	0	2	0	0	2,286	.2
Fergus	682	0	0	508	0	48	0	0	1,238	.1
Gallatin	0	0	13,737	2,488	0	538	0	0	16,763	1.5
Madison	0	0	220	387	0	40	0	0	647	.1
Meagher	909	438	6,356	5,076	6	5	0	0	12,790	1.1
Park	0	0	13,402	7,750	0	2,582	0	11	23,745	2.1
Beaverhead, Jefferson, Silverbow ^{4/} , ^{5/}	45	0	412	1,073	0	99	0	0	1,629	.1
Carbon, Stillwater, Sweetgrass	347	0	41	654	0	37	0	118	1,197	.1
Carter, Powder River, Rosebud	4,291	0	0	0	0	0	0	0	4,291	.4
Cascade, Judith Basin	81	0	184	421	161	0	0	1	848	.1
Glacier, Lewis and Clark ^{4/} , Teton	962	0	180	2,998	34	291	0	0	4,465	.4
Bighorn, Musselshell, Treasure, Wheatland, Yellowstone	615	22	0	28	0	0	0	120	785	.1
TOTAL EASTERN	7,947	460	34,968	23,216	201	3,642	0	250	70,684	6.3
Percent of total	11.2	.6	49.5	32.8	.3	5.2	.0	.4	100.0	
TOTAL MONTANA	188,209	25,125	47,817	259,614	10,319	403,398	189,707	4,425	1,128,614	100.0
Percent of total	16.7	2.2	4.2	23.0	.9	35.8	16.8	.4	100.0	

^{1/} Practically all western white pine, but includes very small amounts of whitebark and limber pines.^{2/} Includes grand fir and alpine fir.^{3/} Includes cottonwood (2,210 M b.f.), western redcedar (1,896 M b.f.), western hemlock, and aspen.^{4/} Lewis and Clark, Deerlodge, and Silverbow Counties overlap the Continental Divide.^{5/} Combined to avoid disclosing individual operations.

Idaho

Idaho's total log production amounted to nearly 1.9 billion board feet (table 1), of which almost 1.1 billion board feet (more than 58 percent) were produced in four of the northern counties: Clearwater, Shoshone, Bonner, and Idaho.^{2/}

Douglas-fir was the leading species in northern Idaho and for the State as a whole, but was in second place after ponderosa pine in southern Idaho.

Northern Idaho produced more than 1.5 billion board feet of logs, more than 82 percent of the State's total output. Southern Idaho's production of almost 331 million board feet made up the remaining 18 percent.

The national forests in Idaho produced 37.5 percent^{3/} of all logs in 1956 as compared to 25.4 percent in 1952. While log production for the State was 50 percent higher in 1956 than in 1952, production from national forests was 122 percent higher in 1956 than in 1952.

A total of 143,299,000 board feet of logs, amounting to 7.6 percent of Idaho's production, was shipped to mills in Washington, Montana, Utah, and Wyoming for manufacture.

Montana

Log production for all of Montana exceeded 1.1 billion board feet (table 2). Lincoln County, with close to 394 million feet, accounted for almost 35 percent of the State's total output. Three counties--Lincoln, Flathead, and Missoula--together produced about 750 million board feet of logs to make up more than 66 percent of the total. Nearly 94 percent of Montana's production came from the western subunit.

Engelmann spruce accounted for almost 36 percent of all logs produced in Montana, with Douglas-fir in second place at 23 percent.

In eastern Montana, lodgepole pine had no close competition for first place since it made up almost half of the subunit's total log output.

National forests in Montana produced 44 percent of all logs for the State in 1956, as compared to 36.5 percent in 1952. The 1956 total log production for the State was 54 percent higher than that of 1952, while national forest log production was 86 percent higher in 1956 than in 1952.

^{2/} The portion of Idaho County lying north of the Salmon River.

^{3/} Basis: U. S. Forest Service Region 1 and Region 4 timber cut reports for the calendar years 1952 and 1956, and Timber Resource Review data for 1952.

Logs totaling 66,596,000 board feet, or 5.9 percent of the State's production, were shipped to mills in Idaho, Washington, and South Dakota for sawing.

Spruce Salvage Project

An extensive project to salvage the large amounts of beetle-killed spruce in western Montana and northern Idaho got underway in 1952. In that year, spruce logs accounted for 2.4 percent of northern Idaho's production and nearly 15 percent of Montana's.^{4/} Since then, as shown by figures for 1956, the efforts of public agencies and lumber companies to salvage this timber have pushed Engelmann spruce to the top place (nearly 38 percent) among species for log production in western Montana and to the point where spruce made up more than 13 percent of logs produced in northern Idaho.

Progress of this project is reflected more sharply in tables 3 and 4. The estimates shown were compiled from data furnished by sawmill operators; these estimates were supplemented by others furnished by the national forests in the two States. The percentages and volumes shown are expected to be conservative estimates of the actual proportion of logs from dead trees because many such logs cannot be identified as dead when scaled, and records are seldom kept to the detail that would permit complete segregation of dead tree volumes.

Table 3.--Estimated percentages of sawlogs cut from dead trees
(Engelmann spruce and other species),
Idaho and Montana, 1956

State subunit	Dead spruce percentage of total spruce cut	Percentage of total cut, all species		
		Dead spruce	Other dead	Dead all species
Idaho, Northern	48.8	6.5	1.1	7.6
Southern	4.3	.3	1.7	2.0
State	45.0	5.4	1.2	6.6
Montana, Western	56.3	21.3	2.2	23.5
Eastern	.0	.0	.7	.7
State	55.8	19.9	2.2	22.1

^{4/} Wikstrom, J. H. 1952 log production for lumber and veneer. Northern Rocky Mountain Forest and Range Experiment Station, Research Note 136, 3 pp. 1954.

More than half of Montana's spruce logs and nearly half of Idaho's came from dead trees. The percentage of dead spruce cut includes the major part of all dead timber cut in northern Idaho and western Montana, but especially so in western Montana where it amounted to more than 21 percent of the total log production.

The following data (table 4) for selected counties show that the ratio of dead tree logs to all spruce logs in northern Idaho ranged all the way from 1 in 8 (Clearwater County) to more than 3 out of 4 (Shoshone County). In western Montana the ratios ranged from 1 in 9 (Missoula County) to more than 4 out of 5 in Sanders County.

Table 4.--Estimated cut of Engelmann spruce in principal salvage project counties, 1956

Subunit	Engelmann spruce cut	
	Total cut	From dead trees
	<u>M b.f.</u>	<u>Percent</u>
<u>Northern Idaho</u>		
Bonner	28,571	21.7
Boundary	63,655	51.6
Clearwater	12,252	12.9
Idaho	37,935	37.4
Shoshone	59,323	76.0
<u>Western Montana</u>		
Flathead	83,000	46.2
Lincoln	211,854	69.5
Mineral	29,842	67.7
Missoula	38,388	11.2
Sanders	17,919	83.2

Accuracy of 1956 Survey

The data presented for Idaho in this report are based on replies obtained from 203 active Idaho mills and 17 "out-of-state"^{5/} mills that accounted for 1,782,482,000 board feet or 95.1 percent of the State's total log production.

Reports were obtained, either by mail or field contacts with nonresponding mills, for all mills located in bordering states that were known to receive logs from Idaho or that could reasonably be expected to receive Idaho logs.

^{5/} Mills located outside Idaho, but receiving logs from Idaho forests.

Within the State, reports were obtained for all mills having annual lumber production rates exceeding 5 million board feet. For the 108 active non-reporting mills sawing less than 5 million board feet annually, log receipts were calculated from samples taken in three strata by field contacts: (1) mills producing between 1.000 and 4.999 million board feet per year, (2) mills producing between 0.500 and 0.999 million board feet per year, and (3) those producing less than 0.500 million board feet per year. Sampling of nonreporting mills accounted for 91,218,000 board feet of logs, or 4.9 percent of the State's total log production of 1,873,700,000 board feet.

The standard error of the estimated part of the total production is $\pm 17,200,000$ board feet. Since the part of the State's total production that was obtained from reports is considered to be without sampling error, the odds are 2 to 1 that the true total State production lies within the interval 1,873,700,000 $\pm 17,200,000$ board feet.

For Montana, the same procedure was followed. Reports from 229 active Montana mills and 14 "out-of state" mills accounted for 1,029,884,000 board feet, or 91.3 percent of the State's total output. The remainder, or 98,730,000 board feet (8.7 percent of the State total), was obtained by field-sampling the 104 active nonreporting mills of less than 5 million board feet annual lumber production. The standard error of the estimated part of Montana's production is $\pm 24,297,000$ board feet and the odds are 2 to 1 that the true total State production lies within the interval 1,128,614,000 $\pm 24,297,000$ board feet.

